Russian Mathematics 2010 vol.54 N8, pages 74-81

Empirtical estimates with minimal d-risk for discrete exponential families

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Abstract

We develop an empirical d-a posteriori approach to estimations with uniformly minimal d-risk, when the a priori distribution is completely unknown. For a scalar parameter of a discrete exponential family we construct empirical estimates based on archive data and prove the convergence of the empirical d-risk to the true one. As an example we adduce the estimation of the Poisson distribution parameter. We numerically study the accuracy of the estimates by a statistical modeling technique. © 2010 Allerton Press, Inc.

http://dx.doi.org/10.3103/S1066369X10080104

Keywords

convergence of empirical d-risk, discrete exponential families, empirical d-a posteriori approach, estimates with uniformly minimal d-risk